

IN THE CLAIMS

Please amend the claims as follows:

1-14 (Cancelled)

15. (Withdrawn) A paint spray zone for applying a particulate paint having particulates comprising:

a plurality of first paint sprayers each having a rotary atomizer, the first paint sprayers atomizing a first coat of the particulate paint to a surface; and

a plurality of second paint sprayers each having a rotary atomizer, the second paint sprayers atomizing a second coat of the particulate paint to said surface over said first coat.

16. (Withdrawn) The paint spray zone of Claim 15 wherein the transfer efficiency of the paint spray zone is greater than 75%.

17. (Withdrawn) The paint spray zone of Claim 15 wherein the first paint sprayers and second paint sprayers are intermingled.

18. (Withdrawn) The paint spray zone of Claim 15 wherein said atomizers apply said particulate paint to the surface and causes said particulates to lie flat on the surface.

19. (Withdrawn) The paint spray zone of Claim 15 wherein the atomizers atomize the particulate paint into paint droplets having a paint droplet size deviation less than 50 microns.

20. (Withdrawn) A method for the rotary atomization of a particulate paint including the steps of:

a) atomizing liquid paint having particulates into paint droplets having a paint droplet size deviation less than 50 microns; and

b) adjusting paint spray parameters to ensure proper color matching.

21. (Withdrawn) The method of Claim 20 wherein said step a) further includes the step of providing a substantially laminar flow of said paint across an overflow surface of a rotary atomizer bell cup.

22. (Withdrawn) The method of Claim 21 wherein said step a) further includes the step of providing less than four flow deviations of said paint between an axial opening in a base of the bell cup and an atomizing edge of the bell cup, the overflow surface being between the axial opening and the atomizing edge.

23. (Withdrawn) The method of Claim 22 wherein said step a) further includes the step of atomizing said paint into paint droplets having a size deviation of less than 30 microns.

24. (New) A rotary bell cup capable of atomizing particulate material for use in a paint application zone, comprising:

a substantially continuous conical overflow surface providing laminar flow for particulate material delivered through a central axial opening and an annular spray edge surrounding said overflow surface;

a deflector having a deflection surface of generally rotational symmetry disposed in front of said central axial opening and overlapping said conical overflow surface in a spaced relationship; and

wherein said deflector includes a diameter substantially less than a diameter of said overflow surface thereby atomizing particulate paint droplets having a size deviation of less than about 50 microns enabling said rotary bell cup to apply a first coat and a second coat of particulate paint in the paint application zone.

25. (New) A rotary bell cup as set forth in claim 24, wherein said diameter of said deflection surface is less than forty percent of said diameter of said conical overflow surface.

26. (New) A rotary bell cup as set forth in claim 24, wherein said conical overflow surface of said bell cup includes a smooth substantially continuous cone angle providing laminar flow of said particulate paint.

27. (New) A rotary bell cup as set forth in claim 24, wherein said cone angle is between generally 26 and 30 degrees.

28. (New) A rotary bell cup as set forth in claim 24, wherein said annular spray edge includes a diameter of between 63 and 75mm.

29. (New) A rotary bell cup for atomizing paint in a paint application zone, comprising:

a generally conical overflow surface having a generally constant flow angle defining a radially inward central axial opening and a radially outward atomizing rim;

a central flat portion disposed between said conical overflow surface and said radially inward central axial opening;

a deflector having a deflection surface of generally rotational symmetry disposed in front of said central opening having plurality of passageways disposed therethrough opposite said central opening, wherein said rotary bell cup is adapted to apply either a first or a second layer of paint in said paint application zone.

30. (New) A rotary bell cup as set forth in claim 29, wherein said rotary bell cup atomizes particulate paint into droplets having a size deviation of less than about 50 microns.

31. (New) A rotary bell cup as set forth in claim 29, wherein said substantially continuous conical overflow surface includes a flow angle of between generally 26 and 30 degrees.

32. (New) A rotary bell cup as set forth in claim 29, wherein said rotary bell cup atomizes particulate paint into droplets having 80 percent within an 8 to 50 micron deviation.

33. (New) A rotary bell cup as set forth in claim 29, wherein said annular rim includes a diameter of between 63 and 75mm.